Listing of the Claims:

This listing of claims will replace all prior versions and listing of claims in the application:

1-400. (Cancelled)

401. (Currently amended) A method of expanding a population of CD34+ hematopoietic stem cells *ex-vivo*, while at the same time, substantially inhibiting differentiation of the stem cells *ex-vivo*, the method comprising:

(a) culturing said CD34+ stem cells *ex-vivo* under conditions allowing for cell proliferation, said conditions which comprise providing nutrients and a combination of cytokines selected from the group consisting of stem cell factor, thrombopoietin, FLt3 ligand, IL-6 and IL-3 and,

(b) at the same time, culturing said cells in the presence of 1.0 mM to 10 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative for a culture period resulting in expanding the population of hematopoietic stem cells while inhibiting differentiation of said CD34+ stem cells *ex-vivo*, as compared to CD34+ cells cultured in the presence of cytokines and nutrients without exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

402-410. (Cancelled)

411. (Currently amended) A transplantable hematopoietic cell preparation comprising:

an expanded population of CD34+ hematopoietic stem cells propagated *ex-vivo* in the presence of nutrients and a combination of cytokines selected from the group consisting of stem cell factor, thrombopoietin, FLt3 ligand, IL-6 and IL-3, and in the presence of 1.0 mM to 10 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative, wherein said hematopoietic cell preparation is characterized by a greater percentage of $CD34^+/CD38^-$ and $CD34^+/Lin^-$ cells as compared to hematopoietic stem cells propagated in the presence of cytokines and nutrients without exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative; and

a pharmaceutically acceptable carrier.

412. (Currently amended) A method of expanding a population of CD34+ hematopoietic stem cells *ex-vivo*, the method comprising:

(a) obtaining adult or neonatal umbilical cord whole white blood cells or a whole bone marrow cells sample which comprises unselected CD34+ cells; and

(b) providing the cells in said sample with *ex-vivo* culture conditions for stem cells *ex-vivo* cell proliferation, said conditions comprising nutrients and a combination of cytokines selected from the group consisting of stem cell factor, thrombopoietin, FLt3 ligand, IL-6 and IL-3 and, at the same time, culturing said cells in the presence of 1.0 mM to 10 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative for a culture period resulting in expanding a population of CD34+ hematopoietic stem cells while inhibiting differentiation of said CD34+ stem cells in said sample, as compared to CD34+ cells cultured in the presence of cytokines and nutrients without exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

413. (Cancelled)

414. (Previously presented) The method of claim 401, wherein said population of stem cells are selected from the group consisting of: embryonic stem cells and adult stem cells.

415. (Cancelled)

416. (Currently amended) The method of ~~any of~~ claim 401, wherein said stem cells are derived from a source selected from the group consisting of: bone marrow, peripheral blood and neonatal umbilical cord blood.

417. (Original) The method of claim 416, wherein said stem cells are mixed with committed cells.

418. (Original) The method of claim 416, wherein said stem cells are enriched for hematopoietic $CD34^+$ cells.

419. (Currently amended) The method of claim [[418]]401, wherein said expanded hematopoietic cells are characterized by an absence, or significantly diminished expression of cell surface antigens CD3, CD61, CD19, CD33, CD14, CD15 or CD4.

420-421. (Cancelled)

422. (Previously presented) The method of claim 401, wherein said combination of cytokines further comprise at least one cytokine selected from the group consisting of: interleukin-1, interleukin-2 interleukin-10, interleukin-12 and tumor necrosis factor-α.

423. (Previously Presented) The method of claim 401, which method further comprises providing late acting cytokines.

424. (Original) The method of claim 423, wherein said late acting cytokines are selected from the group consisting of: granulocyte colony stimulating factor, granulocyte/macrophage colony stimulating factor, erythropoietin, FGF, EGF, NGF, VEGF, LIF, Hepatocyte growth factor and macrophage colony stimulating factor.

425-436. (Cancelled)

437. (Previously Presented) The method of claim 401, wherein said nicotinamide analog is selected from the group consisting of: benzamide, nicotinethioamide, nicotinic acid and α-amino-3-indolepropionic acid.

438. (Previously Presented) The method of claim 401, wherein said nicotinamide analog is benzamide.

439-461. (Cancelled)

462. (Currently amended) A method of expanding *ex-vivo* a population of CD34+ hematopoietic stem cells, the method comprising:

culturing adult or neonatal umbilical cord whole white blood cells or whole bone marrow cells sample which comprises unselected CD34+ cells *ex-vivo* under conditions that result in proliferation of said CD34+ cells, said conditions comprising nutrients and a combination of cytokines selected from the group consisting of stem cell factor, thrombopoietin, FLt3 ligand, IL-6 and IL-3; and at the same time culturing said cells in the presence of ~~about~~ 1.0 mM to ~~about~~ 10 mM exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative for a culture period resulting in expanding a *ex-vivo* a population of a hematopoietic CD34+ stem cells in said sample, as compared to CD34+ cells cultured in the presence of cytokines and nutrients without exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

463. (Cancelled)

464. (Previously Presented) The method of claim 401, wherein said culturing said cells in the presence of said exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative is for a period of up to three weeks.

465. (Currently amended) The ~~method~~ transplantable cell preparation of claim 411, wherein said culturing said cells in the presence of said exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative is for a period of up to three weeks.

466. (Previously Presented) The method of claim 412, wherein said culturing said cells in the presence of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative is for a period of up to three weeks.

467. (Previously Presented) The method of claim 462, wherein said culturing said cells in the presence of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative is for a period of up to three weeks.

468. (Cancelled)

469. (New) The method of claim 401, wherein said cells are cultured in the presence of 1.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

470. (New) The method of claim 401, wherein said cells are cultured in the presence of 5.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

471. (New) The method of claim 401, wherein said cells are cultured in the presence of 10.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

472. (New) The method of claim 412, wherein said cells are cultured in the presence of 1.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

473. (New) The method of claim 412, wherein said cells are cultured in the presence of 5.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

474. (New) The method of claim 412, wherein said cells are cultured in the presence of 10.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

475. (New) The method of claim 462, wherein said cells are cultured in the presence of 1.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

476. (New) The method of claim 462, wherein said cells are cultured in the presence of 5.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

477. (New) The method of claim 462, wherein said cells are cultured in the presence of 10.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

478. (New) The transplantable cell preparation of claim 411, wherein said cells are propagated in the presence of 1.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

479. (New) The transplantable cell preparation of claim 411, wherein said cells are propagated in the presence of 5.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

480. (New) The transplantable cell preparation of claim 411, wherein said cells are propagated in the presence of 10.0 mM of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.

481. (New) A method of expanding a population of CD34+ hematopoietic stem cells *ex-vivo*, while at the same time, substantially inhibiting differentiation of the stem cells *ex-vivo*, the method comprising:

(a) culturing said CD34+ stem cells *ex-vivo* under conditions allowing for cell proliferation, said conditions which comprise providing nutrients and a combination of cytokines selected from the group consisting of stem cell factor, thrombopoietin, FLt3 ligand, IL-6 and IL-3 and,

(b) at the same time, culturing said cells in the presence of an effective amount of exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative for a culture period sufficient to expand the population of hematopoietic stem cells while inhibiting differentiation of said CD34+ stem cells *ex-vivo*, as compared to CD34+ cells cultured in the presence of cytokines and nutrients without exogenously added nicotinamide, nicotinamide analog or nicotinamide derivative.